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BY MEANS OF

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TO

Sir HENRY HALFORD, Bart.

K.H. F.R.S.

PRESIDENT OF THE COLLEGE OF PHYSICIANS, PHYSICIAN TO THE KING, &c. &c. &c.

MY DEAR SIR,

In requesting the honour of dedicating to you the following pages, I am actuated by the feelings of respect and personal regard, which I entertain equally for your public and for your private character.

It is also with more than ordinary interest that I address my observations to you, as the President of the College; an office which, it may with truth be said, you fill with no less dignity to yourself, than with benefit to the whole profession.

In becoming an advocate for the employment of the stethoscope, I disclaim adopting principles in the practice of physic, which might with any justice be called mechanical.

It cannot however be denied, that with all the improvements which the art of medicine has received, it still must, on many occasions, depend greatly on conjecture.

Some of the diseases of the chest are attended with such obscurity, that the detection of their precise nature bids defiance to the most acute penetration. What prudent physician, then, will disdain to avail himself of the means which this simple but philosophical instrument affords, of obtaining a more faithful diagnosis ?

It is not intended that its use should supersede those established principles of our

art, which early and regular education, as well as experience, have pointed out to us ; but that it should serve as an auxiliary in the investigation of obscure disease.

For my own part, I have no apprehension that the judicious employment of the stethoscope can, in any degree, tend to make us negligent in observing the symptoms of diseases, or indifferent to the study of the usual means of diagnosis.

In the hope, that the general opinions which I have offered in this volume, may receive the high sanction of your approval,

I have the honour to remain,

DEAR SIR,

Your most obliged, faithful,

And obedient Servant,

CHARLES SCUDAMORE.

Wimpole Street,
April 14th, 1826.

PREFACE.

HAVING expressed my opinion generally on the merits of the stethoscope, in the course of the following Essay, I have little to say in the form of a preface.

Although the credit of the invention is due to the ingenuity of M. Laennec alone, and the volume which he has presented to us abounds with valuable pathology, it is of no small importance that the sentiments and the experience of others should also be collected and recorded.

Before any new method in the practice of medicine can be firmly established, or

even deserve to be regarded in the light of fixed authority, it is incumbent upon us to examine all the collateral evidence which can be produced in its favour; and he who, with this view, contributes to the general stock of information, may claim the merit of usefulness, although he be not entitled to the more brilliant distinction awarded to genius.

It appears to me, that whoever adopts the use of the stethoscope, must study it for himself, and consider, that all which is offered to his attention by the industry and observations of others, is calculated to serve his purpose only as an introductory lesson.

The skilful employment of this instrument must be the result of practice. Every case which occurs, presents new and distinct matter for investigation. It is pecu-

liarly necessary to be accurate in marking with nicety the nature of the impressions which are made upon the ear, and to reflect upon the phenomena with all the skill and care of the physiologist, the anatomist, and the physician. Nothing must be left to the imagination; for, if this creative faculty be exercised, the judgment may be misled, rather than informed and assisted.

I have purposely confined myself to a limited sketch of the general subjects which I have embraced; so that if the following pages should not appear to possess the merit of great novelty, they will, I hope, at least escape the imputation of being tedious and devoid of interest.

OBSERVATIONS,

&c. &c.

In a late visit to Paris, I availed myself of the opportunity of attending the principal hospitals; of inquiring into the general practice of French medicine; and of studying, at the hospital of La Charité, the method brought to so much perfection by M. Laennec, of investigating the diseases of the chest; in regard to which, I had also the advantage of receiving every kind attention and personal instruction from this distinguished physician.

The method of which I now purpose to offer a brief account, embraces the use of percussion and of the stethoscope.

It appears that percussion was first

practised by Avenbrugger in Germany, who published a treatise on the subject in the year 1761, which was translated into French by the celebrated Corvisart, with commentaries, in 1808. This author, in his Treatise on the Diseases of the Heart, constantly founds much of his diagnosis on the indications afforded by percussion.

The method consists in striking the respective parts of the chest, which return a hollow kind of sound, when the contents of this cavity are in a healthy state; but give a duller sound, when, from any cause, there is impediment to the free entrance of air into the cells of the lungs. When the obstruction is considerable, the perception is very much the same as when you strike upon the thigh. The sound is flat instead of hollow.

Simple as it may appear, there is a con-

siderable tact in the mode of percussing ; and it is of importance to practise it in aid of the information derived from the stethoscope.

The linen covering over the chest may remain, but thick dress should be removed, and the surface also ought to be smooth. The integuments should be rendered rather tense by the favourable position of the arms. The four fingers being held close, bent, and a little curved, the chest is to be struck rather sharply and in quick succession ; and when the indication of obstruction is manifest by the dulness of sound, the corresponding part on the opposite side, is to be struck with equal force ; nice care being observed that all circumstances are equal ; as for example, the kind and strength of percussion, the quantity of covering on the part, and the position of the patient. At small points of examination, it will sometimes be conve-

nient to use, in the same manner, only two fingers; or, now and then, on a broad surface, the flat hand, percussing rather slowly and gently.

M. Laennec displays no less skill and accuracy in his mode of percussion than in the use of his stethoscope; and he attaches great importance to it as an auxiliary source of information.

Through the industry and ability of Dr. Forbes of Chichester, who translated the work of Laennec in 1821, and who has also lately published an original volume of great merit on the subject; and through the medium of our medical journals, more especially the excellent quarterly works published at Edinburgh by Dr. Duncan, jun., and in London by Dr. James Johnson, the professional public has been made acquainted with the nature and uses of the stethos-

cope; but up to the present time, it is so much a novelty in medical practice, as well as with the public at large, that I trust no apology is necessary for presenting an abridgment of the opinions of M. Laennec, with a few reflections on the subject derived from my own observation and practice.

As with percussion, the use of the stethoscope is founded upon a simple philosophical principle; that of ascertaining whether the cells of the lungs are healthy, and fitted for the free reception of air in the function of respiration; or whether the membranes of the chest, or the vessels, valves, and cavities of the heart, are obstructed by any disordered action, or by any permanent disease.

The instrument which has received the name of *stethoscope* (derived from στῆθος,

pectus, and σκοπέω, speculor or exploro), was invented by M. Laennec; and the idea of it occurred to him from reflecting on the well-known fact in acoustics, that the impression of sound is augmented, when conveyed through certain solid bodies, as, when we hear the scratch of a pin at one end of a piece of wood, on applying our ear to the other. In examining a disease of the heart, he first made use of a quire of paper rolled into a cylindrical form, and, satisfied with the result, he soon proceeded to investigate the various phenomena afforded by the vibrations of air within the chest, through the medium of the stethoscope; which he constructed from the suggestion already mentioned.

After making various experiments as to the form of the instrument, and the kind of material, he found most success in using a wood of medium density, as cedar. This

proves very favourable for conveying the delicate vibrations caused by respiration, from the walls of the chest to the ear. For the information of those who have never seen the instrument, I may observe, that it is of cylindrical form, shorter in length, but larger in diameter, than the common flute. It has a cylindrical perforation throughout its whole length, and is divided into two parts for the convenience of using the whole or half length, according to the situation of the patient in bed. The end of each part terminates in a funnel-shaped cavity, the one to receive the separate half of the instrument, and the other to receive the part acting as a stopper, which latter has a short pipe, made of brass or silver to enter the bore of the cylinder.

The instrument is used without the stopper, when employed to ascertain the state of respiration; and with it, either to

examine the action of the heart, or the signs afforded by the voice, in certain states of disease affecting the lungs, or the pleural membrane.

In using the stethoscope, care is to be taken that it is kept perfectly flat upon the part to which it is applied, in order that sound may not escape, nor air be admitted; for which purpose it is convenient to hold it at its lower part, while the other end (with the even surface) should be in close contact with the ear, so that the aperture of the instrument be in direct communication with the internal ear. Silk covering, as causing a creaking sort of noise, and thick dress, as obscuring the sound of respiration, should be removed; but the linen or flannel dress may remain on the person without disadvantage. A beginner will be very apt to fail in his early trials, from inattention to some of these points, and from

the difficulty which at first attends the tuition of the ear.

A skilful use of the instrument requires much practice. It is not, as some may imagine, a simple matter of hearing a delicate sound. *Tact* is necessary, but this will be acquired by perseverance. For two days of my own study, I was frequently at a loss to distinguish the peculiar sound or murmur of respiration, and almost despaired of success. I mention this circumstance, that others beginning with the practice of this instrument, may not be deterred from proceeding, by the awkwardness and disappointment which they at first encounter.

At *La Charité*, the best informed students are great enthusiasts in the practice of this discovery, and regard it as an indispensable source of information in the diagnosis of the diseases of the chest. Such reliance on

the stethoscope is very natural, when constant proofs are afforded of the accuracy of opinion formed by M. Laennec, and others, who are competent in using it. The proofs of sure diagnosis are derived from dissection; as, necessarily, the diseases of the lungs and of the heart, allow frequent opportunity of obtaining this test of the physicians' judgment.

I will relate one instance which came within my immediate knowledge; although equally strong proofs are so numerous, that the regular observer can no more doubt the merits of the stethoscope, than the mathematician can distrust a resolved problem.

In the clinical record of a case of consumption, M. Laennec had stated his opinion, that the upper portion of one lung was the exclusive seat of ulceration. The patient died, and examination was made. The lungs were removed from the chest,

and the expected evidence of disease did not appear. M. Laennec, making a closer inspection, discovered that a small part of the upper lobe had been left in the chest, and upon its removal, the ulceration was found exactly as he had predicted.

Some persons assert, that the discovery of the precise situation of an ulceration of the lung is merely a matter of curiosity, as when arising from tubercles, they consider it incurable; but surely this is not a good medical objection. Our art may improve so as to enable us to remedy these evils; and assuredly our chance of success will be increased by a knowledge of the seat of tubercles, their commencement, and their progress. While those persons therefore who have made use of the stethoscope with success, praise it in terms which may seem romantic and beyond the truth; others, and perhaps those chiefly who have never even

seen the instrument, speak of it with ridicule, or censure it as a piece of quackery.

It is not just that any one wholly unacquainted with the stethoscope, should assume the right of pronouncing an opinion on its properties. It certainly does not deserve the imputation of quackery; for this opprobrium belongs to the concealment of a remedy; or to some mysterious plan of practice, studiously kept secret for the mere purpose of gain. Candour is most honourable to the educated mind; and to be sensible of our ignorance on any particular subject, is the first step to the acquirement of knowledge.

It has been said that the use of the stethoscope may be injurious, by leading the physician to know too much of the danger in a bad case; to make him despond and resign the patient to his fate too soon.

Such an observation scarcely requires refutation. In no instance of dangerous disease can the physician see his way too clearly; and at all times to know the disease, is at least making a considerable approach towards the cure. The judgment, the discretion, and the humanity of the good physician, will be a sure protection to the patient against any abrupt decision, any gloomy opinion, and much more against unkind desertion, in the most hopeless circumstances of disease.

The following case serves to shew the converse proposition, and the happy purpose to which superior knowledge and discernment were applied.

M. Laennec was consulted in the case of a gentleman who was supposed to be dying from phthisis pulmonalis, and in a state so desperate, that he was not expected by his

medical attendant to survive more than two or three days.

M. Laennec made his usual investigation, and persuaded himself that the case had been mistaken, and that the alarming symptoms did not arise from ulceration of the lungs, but from empyema, or purulent collection within the pleuræ. He strongly recommended that the operation for this disease should be performed; and, after a little hesitation and delay, his advice was adopted. A large quantity of pus was evacuated, and immediate relief was afforded. The amendment was rapid, and the progress of cure so favourable, that the gentleman recovered his health in less than three months.

In thus rendering my homage to the merits and science of M. Laennec, I do not wish it to be thought, that I consider even

his authority as infallible; but it is nothing more than is justly due to the new practice, to admit, that it may become of very great importance; and, that by no other mode can we examine the interior state of the chest, with equal accuracy.

Let it be further remarked, that we are not required to lay aside any of our ordinary methods of investigation: This additional mode comes to our aid in cases of obscurity and difficulty. If the physician of long experience be so confident in his powers of diagnosis, that he rejects this invention as unnecessary for his purpose, it need not follow that he should disapprove of it for others who are less experienced, and are more diffident of their skill and penetration. Most assuredly it is a great help to the judgment; and I am fully persuaded, that, in proportion as it is understood, it will be more generally received, and more highly esteemed.

If the naked ear be applied to any part of the chest, it is made sensible of the entrance of the air into the cells of the lungs; and the beginner in this study will receive the impression more fully and sensibly, than by the medium of the stethoscope, because the vibrations are collected from a larger surface; but it is a less accurate method, and much less analytical. He may with advantage practise with the naked ear occasionally, in order to become familiar with the sounds of respiration; but under many circumstances, such a mode is inconvenient and inapplicable. The listening by the ear only is technically called, immediate auscultation; and by the stethoscope, mediate auscultation.

In examining the chest of a person whose respiration is calm, we should desire that it be made purposely quicker, and stronger; but not so audibly as to cause

confusion by that external sound. The perception afforded to the auscultator by healthy lungs, is that of air entering a cavity, as it were with a gentle stream of sound. If the pupil first apply his naked ear to the chest, he will have a clear idea of what he has to expect. As a general rule, in making our investigation of the state of the lungs, the stethoscope should be applied immediately under the clavicle, near the axilla; and the learner will do well to choose the right side, lest he become confused by the action of the heart. In seeking for ordinary respiration, it should not be applied near the trachea, as the stronger action of the air in the bronchial tubes would mislead the ear. To ascertain the state of the posterior part of the lungs, the instrument is to be applied on the scapula, above or below the spinous process.

In my own practice, I have derived the

utmost advantage from the use of the stethoscope in cases of pneumonia, with regard to local treatment. When we find a patient ill with severe symptoms arising from inflammation of the lungs, we do not require the aid of auscultation to determine us in employing the lancet as our first and most important remedy; but we may desire immediately to join with the general bleeding, local depletion; and, most commonly, the period arrives when we wish to use local treatment exclusively, by cupping or leeches, and blisters. Under such circumstances, it is of the utmost importance that we should be able to ascertain the exact seat of the inflammation; and when, as commonly happens in pneumonia, the patient cannot direct us by any sensation of pain, but is labouring under a general sense of oppression and suffocation; we resort to the stethoscope as a positive and most valuable source of instruction. Even when it is ma-

nifested to us by ordinary indications, that the inflammatory action is prevailing on one side of the chest, it is of great advantage that we can detect, by means of the instrument, the particular part of the lungs most affected. I shall illustrate the truth of these remarks by the recital of a few cases.

A gentleman dangerously ill with inflammation of the lungs, which had supervened on an attack of asthma, experienced, in the evening, a renewal of the feelings of suffocation, which, in the morning had been relieved by copious bleeding from the arm. In the middle of the upper part of the chest, he had a severe sensation of tightness, but was not conscious that the lungs were affected more on one side than the other. His cough was most urgent. The stethoscope, applied to the lower part of the right side, conveyed to the ear a strong

sonorous rattle, both on inspiration and expiration, much resembling the sounds of loud snoring. These sounds could not be detected in any other part of the chest. In addition, therefore, to a fresh bleeding from the arm, cupping was used very freely at this part, and with evident good effect. Almost immediately the sounds abated. Two days after, leeches and a large blister were used with further benefit; and the actual relief of the patient perfectly corresponded with the improving indications afforded by the stethoscope. Occasional bleedings from the arm were afterwards required; but the inflammation was finally subdued, and the constitution was restored to its previous state; this gentleman being habitually subject to spasmodic asthma.

A female patient was in a state of most alarming difficulty of breathing from neglected inflammation of the bronchiæ, which

had extended to the lungs. The pulse was sharp and frequent, the skin hot, and every urgent symptom of high fever and irritation was present. Her cough was extremely violent, and the expectoration difficult. The expectorated matter was dense and almost puriform in appearance. On applying the stethoscope over the upper part of the right side of the chest, at every point, and also over the whole of the right shoulder blade, I heard acute sounds similar to those produced by air strongly passing through a key-hole. I considered that these sounds indicated active inflammation in the whole ramifications of the bronchiæ of the right lung. A large quantity of blood was drawn from the right arm; and cupping was also freely employed, both on the chest and shoulder blade. A saline draught with tartar emetic and nitre was administered every two hours. I need not detail the exact progress of the case. These prin-

ciples of treatment being diligently followed up, the patient finally recovered.

A gentleman, subject to gout, took cold in the month of January from exposure to wet. He nursed himself, but not aware of the seriousness of his attack, had neglected to procure medical advice. I found him affected with advanced symptoms of inflammation of the lungs; and, without delay, directed a copious bleeding from the arm. There was very great irritation in the stomach and bowels, attended with painful diarrhœa; on which account, twenty leeches were applied to the middle of the abdomen. His cough was sharp and violent. The appearance of the blood indicated high inflammatory action, being cupped so as to form almost a round ball. The surface of the blood was covered with a thick buffy (fibrinous) coat, and the serum was very abundant, being pressed,

and, as it were, squeezed out from the coagulum in the firmness of its contraction. The indication by the stethoscope on the left side, was that of the "râle crépitante," or the rattle, which is compared to the crackling sound of salt when thrown upon hot iron, and serving to shew that inflammation was existing in the texture composing the air cells. Similar indications were presented on the right side, but in a slighter degree. The patient did not complain of pain in any part of the chest, but suffered severely from oppression, having the feeling that "the room was too small to breathe in."

By means of repeated bleedings, blistering, and the use of suitable medicines, the urgent symptoms were removed, and the patient in a short time enjoyed the first feelings of convalescence. The weather suddenly became intensely severe, and, pro-

bably from an injudicious change of apartment, a relapse of the symptoms of violent cough, difficulty of breathing, fever and general irritation, immediately took place.

Now, by means of the stethoscope, I distinguished to a considerable extent at the upper part of the left side of the chest, a mixed rattle, composed of sounds rather deep than acute, and a gurgling noise, as if a large quantity of mucus was floating in the cells. At the shoulder blade, the instrument furnished the same signs. In addition to the repetition of bleeding from the arm, twenty ounces of blood were removed by cupping, part from the breast and part from the shoulder blade. Great and immediate relief was afforded. The general fever, of which, both now and before, occasional delirium was one symptom, was checked.

The medicine consisted of tartarized

antimony and nitre in a saline draught, with the addition of syrup of poppy, in order to quiet cough and irritation. On the following day, blood was again taken from the arm freely; but, notwithstanding the blood exhibited the same signs as before in a great degree, no further depletion was required.

We are much instructed as to the degree of inflammatory action of the vessels by the appearance of the blood, which, when possessing these characters, is commonly, but inaccurately called inflamed. And we must not consider that continued bleeding is the indispensable remedy for restoring the circulation to a healthy state, and the blood to its natural condition. My view of the nature of blood of this description is, that it simply contains a larger proportion than usual of one of its constituent parts, termed the fibrin; and hence, a firmer clot

and the buffy coat. It is important as being an attendant on inflammatory action*, and an indication, therefore, to our treatment. Although we rightly attach all possible importance to the use of the lancet, and of local bleeding, we must not forget that we have other means of reducing the circulation; as, for example, the use of medicines, repose, and general regimen.

To return to the case, I have to add, that when heat of the skin and general fever were abated, the peculiar sounds just now mentioned, had also nearly disappeared. In this state of improvement, a large blis-

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* I am inclined to think, that during the inflammatory diathesis, a larger proportion of fibrin than natural is actually formed in the assimilating process; and it is further probable that it is not distributed as usual to the several fibrous textures of the body. In my Essay on the Blood, I have suggested this last hypothesis.

ter was applied over the affected side of the chest. As it seemed probable that further general bleeding might be avoided, digitalis was added to the medicine. This becomes a valuable agent at the period when we may hope to have laid aside the use of the lancet. If employed during the height of inflammation, most probably it will not render the pulse slower; and even if it do have this effect, it rather masks than cures the disease, leaving us in doubt whether the abatement of the pulse be fairly due to the diminution of inflammatory action, or to the influence of the digitalis. This gentleman recovered gradually, but in the most favourable manner.

The latest morbid indication by the stethoscope, was simply the mucous rattle.

In exploring the state of the chest with the stethoscope, it is incumbent upon us to

reason carefully upon every phenomenon which we discover, and not to consider this or that circumstance as merely curious. We should weigh well the importance of the pathological indications; and form our conclusions, in great measure, from our knowledge of the anatomical structure of the particular parts of the organ which we find to be affected; and, also, from the relative situation of one part to another. For example, we discover different kinds of rattle, accordingly as the bronchial tubes, or the air cells, may be respectively affected; and the effect produced on the action of the heart by a morbid condensation of the left lung, is very different from that occasioned by the same state of disease in the right.

In cases of pulmonary consumption, it is important for us to ascertain whether or not ulceration has yet taken place.

In this investigation, we use the stethoscope with its stopper, as serving better to bring the sound of the voice to a focus. If there be an open tubercle (in synonymous terms, ulceration, or excavation), the vibrations produced by the voice passing more readily to the ear of the auscultator, than when there is no breach of surface in the lung, it seems as if the patient were speaking up the tube, and hence the exact situation of the ulceration is indicated. This phenomenon is called by the expressive term, pectoriloquism.

If the instrument be applied over the windpipe, when there is not disease, the voice produces in some measure the same effect; because at this part, the integuments are thin, and do not interpose much medium between the voice of the person speaking, and the ear of the auscultator.

It is a consoling circumstance that M. Laennec does not view tubercular consumption as an incurable disease. He mentions having several patients under his care ill with chronic catarrh, affording distinctly the sign of pectoriloquism, although in all other respects then free from symptoms of consumption.

He refers to the case of a lady, a patient of M. Bayle, in whom pectoriloquism was quite distinct. She had been decidedly affected with the symptoms of consumption eight years before : she had recovered beyond all expectation, and was then stout, not having any other symptom of pulmonary irritation than a slight cough.

M. Laennec next relates* the morbid appearances in the lungs, found on dissec-

* See Forbes's Translation, p. 19.

tion in five cases of patients who died from other diseases. In each instance, tubercular excavations were found cicatrized, and for the most part lined by a semi-cartilaginous membrane ; adding testimony therefore to the opinion already stated, that nature does sometimes exert a curative process, in cases of consumption which were apparently hopeless.

It should consequently be the study of our art to favour the salutary efforts of nature; and invariably to cherish and encourage, in a judicious manner, those hopes of the patient, which in this destructive disease are always, to a remarkable degree, so fondly entertained. It is to be observed that if a solid cicatrix be formed, and the bronchial tubes terminating in the part be obliterated, the phenomenon of pectoriloquism cannot be found; but we meet with it in two states of the diseased lung,

the one in which the ulcerative process is at present going on; the other, in which there is a healed excavation or ulcer, lined by a newly-formed membrane, of a semi-cartilaginous nature, and fistulous. These respective conditions will of course be denoted by the relative state of the patient. The perfect cicatrix is more completely a curative process, than the formation of fistula.

The recovery of health from the cure of ulceration just described, may prove more or less lasting accordingly as the remaining part of the lung be free, or not, from tubercles. But even when they do exist, they may fortunately remain dormant for some years.

In every case of seeming recovery from consumption, it is incumbent on the patient to lead a life of the utmost care, and to

choose a favourable climate, endeavouring to avoid the cold of winter, the extreme heat of summer, and the vicissitudes of spring and of the latter part of autumn, by the best possible management. M. Laennec is particularly partial to a sea-side residence for consumptive patients.

In some circumstances of consumption, the existence of pectoriloquism, as denoting the ulcerative process, is considered by this physician to be rather favourable than otherwise; because it is an indication that nature is making efforts towards a cure, by maturing and evacuating the tuberculous matter. The prognosis is favourable in proportion as we have reason to hope that the other parts of the lungs are healthy.

In some severe examples, numerous tubercles acquire an active state of disease;

and the consequent irritation is so excessive, that death takes place without the usual process of ulceration.

The nature of the expectoration will guide us considerably in our diagnosis; but it is necessary to keep in recollection, that it should never be judged of separately from the other symptoms. It frequently happens that we witness the sputa of ill appearance and puriform, without danger in the patient; in so great a degree does the bronchial membrane, in common with the other mucous membranes, fall into a state of irritation and diseased action, which alters the secreting function most remarkably; and, as a consequence, we find the product similar in appearance to that which the vessels form, when there is actual breach of surface.

M. Laennec observes, "that the supe-

rior lobes of the lungs are the most common seat of tuberculous ulceration; but that they also occur in the centre of the lungs; in their anterior, middle, or lateral parts, or even in their inferior edge, while the superior lobes are uninjured."

In a case in which we suspect pectoriloquism, we must therefore make our investigation sufficiently extensive.

Also, in a suspicious case, we are not to form a decision upon a single examination; "because the sputa contained in the excavations may obstruct for a time the communication with the bronchiæ, and thus suspend pectoriloquism for several hours." M. Laennec further observes, "If, after repeated trials, we cannot discover pectoriloquism, we must infer, either that the tubercles are still immature, or, if softened, that they do not communicate with the bron-

chiæ; or, lastly, that the disease is not phthisis."

In cases of pleurisy, when there is serous effusion between the layers of the pleura, the voice affects the stethoscope so as to produce that peculiar phenomenon of bleating sound, to which the term *ægophonism*, or *caprine pectoriloquism*, is given; from the supposed resemblance to the voice of a goat. M. Laennec considers that "the natural resonance of the voice in the bronchial tubes is rendered more distinct by the compression of the pulmonary tissue, and by its transmission through the medium of a thin layer of fluid."

I have traced, in a case of pleurisy, the daily diminution of this phenomenon, in proportion as the absorption has taken place, and the healthy condition of the pleural membrane has returned.

I should add to this concise account, that M. Laennec considers œgophonism to be a favourable sign in pleurisy; because it indicates a moderate degree of effusion. It is not found, "if there have been a rapid and copious effusion, by which the lung becomes suddenly compressed against the mediastinum; nor where a former attack of the disease has firmly attached the posterior parts of the lung to the pleura."

Four principal kinds of rale or rattle are enumerated, as discovered by the stethoscope. They are termed, "the humid or crepitous; the mucous or guggling; the dry sonorous, and the dry sibilous or hissing rattle." Other characteristic varieties might be mentioned. For the physical explanation of these phenomena we must refer to the altered condition of the air cells, the bronchial tubes, or the plural membrane, occasioned by inflammation and its consequences; or, sometimes by spasm

only as regards the bronchiæ. For many details on this part of the subject, the reader is referred to M Laennec's Treatise by Forbes.

In the case of an elderly lady, ill with pneumonia and bronchitis mixed, I distinguished, on the right side, immediately under the clavicle, the râle crepitante; but, rather lower down, sounds like the chirping of a bird, an effect probably owing to spasmodic contraction of the minute branches of the bronchia, arising from inflammation. The other side of the chest afforded indications of free but noisy respiration. In addition to general bleeding, twelve leeches of full size were applied to the right side with great advantage. On the following day, the chirping sounds were lessened, and afterwards yielded entirely to further general and local bleeding. Instead of the chirping sound, we sometimes find that which is aptly compared to the cooing of the turtle dove.

It is certain that the diseases of the heart form a much more delicate and difficult study with the stethoscope, than those of the lungs.

In our ordinary means of investigation, it often exceeds our best powers of discrimination, to distinguish satisfactorily between functional and structural disease; and this difficulty, I apprehend, will not be removed by the use of the stethoscope, although I am well persuaded it will be very materially lessened. Both humanity towards the patient, and a regard for our own reputation, demand that we should use very great caution in forming our opinion on these occasions, and still greater in pronouncing it.

Inordinate action of the heart arises from many influential causes, both of a moral and physical nature. Nervous pal-

pitation is of common occurrence. Intermission of pulse is not unfrequent; but I have had occasion to see most experienced practitioners mistaken concerning the true nature of this affection. It occurs as a sympathy with a morbid state of the brain, the stomach, and also the liver; but most frequently, according to my observation, when the stomach of an individual of nervous constitution is disordered with permanent indigestion.

The most remarkable cases of intermittent pulse which have occurred in my practice, have been connected with faulty action of the digestive organs, and of the liver especially, in gouty persons. We know how remarkably the gout affects the nervous system; and I can scarcely offer a stronger proof of it, than this kind of influence upon the heart; for although we meet with examples of the same kind of irregular action,

in a disordered state of the digestive organs, in persons free from all disposition to gout, yet in such instances it is neither so permanent nor so remarkable.

I was consulted by a gentleman ill with gout, who related to me that, a few years before, he had been troubled with intermittent pulse for the long space of four years; and, during this period, his mind was alarmed with many gloomy apprehensions. His digestive organs were much disordered: medicine had given only partial relief. Quite suddenly, a painful and regular fit of gout took place, for the first time. Immediately the action of the heart became regular, and has so continued from that period.

I have met with similar instances less strongly marked.

In various affections of the heart, and

also of the aorta, I have derived very useful information, and practical instruction, from the employment of the stethoscope. In the case of a female, the instrument, applied to the epigastric region, conveyed to the ear the peculiar sound which is compared to the blast of a pair of bellows strongly used, and which was attended with occasional pain, especially after taking food. The repeated application of leeches, with the use of sedative medicine, afforded permanent relief.

When we consider that, from the examination of the pulse at the wrist, we obtain information only of the action of the left ventricle of the heart, and that by means of the stethoscope we are made acquainted with the action of both ventricles and both auricles, the value of the instrument must appear unquestionable.

This fact, that the pulse at the wrist

does not indicate the state of the whole heart, is important in a practical as well as a physiological point of view. The pulse, in certain diseases, may be weak and small, when the action of the heart is energetic, and which is to be ascertained by the stethoscope. On the other hand, there may be more energy in the action of the pulse than in the heart generally. The practitioner will receive very material instruction with regard to the use of the lancet, in these indications; and will know with more accuracy when he should prefer local to general bleeding.

In the first trials with the stethoscope, it is extremely difficult to distinguish the action of the ventricle from that of the auricle; and this confusion is greater if the heart be acting with more than ordinary frequency.

The motions of the left cavities of the

heart are chiefly perceptible in the space comprised between the cartilages of the fifth and seventh ribs; and of the right, at about the middle of the sternum, or sometimes rather lower.

With the stethoscope, we first distinguish the action of the ventricles, which occurs at the same moment with the beat of the pulse at the wrist. It is accompanied by a rather dull, but distinct sound. Immediately after, and without any interval, the contraction of the auricles takes place, attended with a noise which M. Laennec compares to that of the lapping of a dog. The duration of this sound, and consequently the period of the contraction of the auricles, is less than that of the ventricles. Next, there is a very short, yet well-marked, interval of repose.

The regularity of this order will be

variously disturbed, by the sympathy which the heart observes towards other organs, as I have already explained; but much more materially by changes taking place in its own structure.

The sounds occasioned by the action of the heart, or of the large arteries, when disordered, are remarkably characteristic in their nature, and, if well understood, assist in a very satisfactory manner, our diagnosis, pathology, and treatment.

The Treatise of M. Laennec, and the late original publication by Dr. Forbes, furnish us with much valuable information for the diagnostic use of the stethoscope in diseases of the heart. A new volume which is about to issue from the press, to be presented to us by the Master of this art, M. Laennec, will contain the important results of his later experience.

As, in a diseased condition of the lungs, when the symptoms are more serious in appearance than reality, we can obtain the comfort to the patient and ourselves, of giving a favourable prognosis by means of the stethoscope; so, in the disordered action of the heart, it may often be in our power to gain that clear perception of the case, which may arm us with confidence as to its true nature, and its freedom from danger, and thus enable us to dismiss much of the apprehension, with which the nervous mind of the patient is sure to be distressed.

Having thus brought in view an outline of the general merits of the stethoscope*,

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* In 1822, M. J. A. Legumeau de Kergarader published a Memoir "Sur l'Auscultation," &c. in reference to gestation; and in 1824, M. J. Lisfranc, a Memoir, to show the powers of the stethoscope in enabling the surgeon to detect with greater nicety the fractures of bones. I have read these

and of the improved method of exploring the diseases of the chest, I proceed to the remainder of my subject; it being my purpose to discuss, in a brief manner, some leading points of theory and practice suggested to my consideration by the cases and facts which came under my notice at the hospitals in Paris; and also to offer a few observations on the most important new medicines which may be considered of French origin.

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essays, which must be allowed the praise of ingenuity; and I conceive that cases may occur of each description, in which the aid of the stethoscope would be found not unimportant.

GENERAL OBSERVATIONS.

Hospitals, and hospices, are numerous in Paris. The latter establishments are for the reception of the aged and infirm, or foundlings. Some of the hospitals are general in their principle of administration; while others are appropriated to particular age, or sex, or disease.

A board of general administration is held daily for the purpose of examining the patients who apply for admission. By means of this arrangement, the physician of any hospital whose attention is directed to a particular disease, or class of diseases, may send a patient to the hospital to which he is attached. The attention of the medical officers of the different hospitals is highly laudable, and worthy of imitation. They make their visits of regular attendance in the wards daily, and usually at the early

hour of seven, and deliver clinical lectures on the most interesting cases at nine. I was present at these lectures, both at the Hotel Dieu and at La Charité, and was much gratified with the ability displayed by M. Dupuytren at the former, and by M. Laennec at the latter hospital.

In most of these abodes of suffering, the sisters of charity exercise the kind office of superintending nurses, in which capacity, however, their humanity leads them to perform various active duties. It is quite delightful to witness the benevolence of their disposition, and the tender manner in which they pay their attentions to those under their pious care. How happily is the influence of religion here displayed, which can thus temper the mind to forego the pleasures of society, and even the common enjoyments of life, for a retirement, in which every hour and almost every moment, each

thought and action, become a homage to the Creator, in the alleviation of human suffering!

There is an establishment in Paris which contributes exceedingly to the comfort and convenience of that class of persons who wish to avoid a hospital, but whose means are too limited to afford all the private aids which sickness requires*. I quote the following account of it from Galignani's Guide to Paris.

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* I am happy to state, that an institution similar in principle to the *Maison Royale de Santé,* is established in London. It is called the *Asylum for the Recovery of Health.* It is situated in Lisson Grove. Already it has been highly patronised, and well does it deserve to grow in the favour of the public. It is supported in part by voluntary contributions, and in part by moderate weekly payments from the patients, who require, however, the ticket of a subscriber for admission.

"MAISON ROYALE DE SANTÉ.

"This house was opened in 1802 by the *Administration des Hôpitaux et des Hospices*, for the reception of invalids in middling circumstances, who pay a daily sum according to the accommodation they receive, as follows, viz. In rooms containing twelve or fourteen beds, two francs fifty cents; in those with two or three beds, three francs fifty cents. A room for a woman, five francs. A room for a man, six francs. In this charge, every thing, even vapour baths, mineral waters, &c. is included."

That a material difference exists between the French and English practice of medicine, is universally known; and the compliment of superiority is seldom allowed to the former. Improvement, however, in the art of medicine, which the successful cultivation of chemistry and of morbid

anatomy has so largely introduced in the last twenty years, is not confined to ourselves. The professors of chemistry at Paris receive their appointments and their conveniences from the government. That valuable commodity, time, is much at their command, because they confine their pursuits more than most of those who are engaged in teaching chemistry in London. The facility of procuring, at Paris, the examination of dead bodies is such as to favour the study of morbid anatomy most completely.

The general objection amongst the French to the use of calomel prevails almost as strongly as at former periods; and certainly amounts to a prejudice. I learnt, on good authority, at Paris, that this medicine is usually found to act in a peculiar manner on the constitution of the French patient; as it commonly produces irritation in the

intestinal canal to a degree that causes extreme discomfort. I need not relate with what freedom and satisfaction the English make use of this active medicine.

I apprehend that the difference of operation is to be ascribed chiefly to the respective nature of the diet in the two countries. The remark applies most particularly to the free use of light wines, amongst the French. The vin ordinaire must produce very different effects from the English malt liquor; or the use of plain or soda water, in conjunction with wines of more sound quality. Indeed the difference of regimen appears to me a sufficient explanation. I may here remark how very materially the action of mercurial medicine on the bowels is controuled by suitable preparation of the patient with mild mucilaginous drinks. If, on the contrary, the stomach and intestinal canal be charged

with acescent liquor, vinous, or of any other kind, acescent food, and fresh fruits, irritation and disorder, more or less painful, may be expected as almost a certain consequence.

If the French employ calomel or other preparations of mercury too little, we doubtless run into the opposite error, of using them too much. It calls for the gravest censure, that, in almost every nursery, calomel should still be administered by the parent to young children and even infants, with as little consideration as if it were a simple domestic medicine. I am convinced that the infantile constitution is frequently most sensibly injured by so erroneous a practice, and that the scrophulous disposition, which might otherwise be dormant, is thus called into action at an early period of life. I think it ought to be an established rule, that mercurial medicine should not be

administered to young children without the sanction of medical authority.

I wish, however, to be understood, that in speaking of the employment of calomel generally, I censure its abuse only. The proper use of it deserves our confidence and best regard; and I think that the French physician labours under great disadvantage in not having a just practical acquaintance with the virtues of this excellent medicine, which, as a remedy in various kinds of active disease, is without a rival.

Chiefly on the principle of avoiding the frequent use of internal medicine, it is a custom universal among the French to assist the bowels by lavement; which, under circumstances of disease, is variously medicated, but otherwise consists merely of water or gruel.

As an occasional remedy, this practice is most useful and important; and, in certain cases of great delicacy of constitution, it may be a very advisable substitute for aperient medicine, however regularly it may be required: but under ordinary circumstances, as a habit, it appears to me as objectionable in other respects as it is inconvenient. When the bowel becomes much accustomed to this artificial distension, it often fails to act without receiving such solicitation; and hence a mechanical necessity is established for this peculiar stimulus*.

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* The use of white mustard is at present very popular, and, like all popular remedies, is employed too indiscriminately. Its medicinal power is not a new discovery. Cullen, in his Materia Medica, vol. ii, p. 171, observes, "As much of the unbruised seeds as an ordinary table-spoon will contain does not prove heating to the stomach, but stimulates the intestinal canal, and commonly proves laxative." Entirely with a view to determine the nature of this article as a medicine, I made an examination of the seeds in their whole state. In a few days after being digested in cold water, they became much

When the digestive powers of the stomach are unhealthy, and particularly when the functions of the duodenum and of the liver are also in error, as we usually

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enlarged, and the water had powerfully the smell of sulphuretted hydrogen. Submitted to distillation in a common alembic with water, the portions of the liquid which first came over possessed the taste of a weak infusion of malt, quite free from pungency. Digested in alcohol, they did not communicate strongly either smell or taste. Some seeds which had passed the alimentary canal, were found to be much swollen, and had lost some of their pungency. It is evident from these results, that the seeds, by treatment with these agents, were acted upon with difficulty in their entire state.

In the Journal de Chemie Medicale, de Pharmacie, &c. No. X. Année 1re. M. M. Henry fils et Gorot, have given an elaborate report of their chemical examination of the mustard seed, of which the following is the substance: the seeds yield by expression a fixed and a volatile oil, and the latter may be separated from the former by digestion in alcohol. The alcoholic solution when evaporated affords a solid and crystallisable substance, possessing acid properties, to which the discoverers have given the name of sulpho-sinapic acid. Sulphur, it is stated, forms a constituent element of this peculiar acid.

M. Julia Fontenelle, in the same Jounal (No. 3), informs us, that from his researches he is led to conclude, that the mus-

see in established disorder of the chylopoetic viscera, the propagated influence which may take place from the lower bowel being stimulated to discharge its contents by means of the lavement, is insufficient

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tard seed owes all its medicinal powers to the volatile oil, for the extraction of which he recommends that the seeds should be reduced to powder, and distilled with eight or ten parts of water.

It may be considered therefore that the properties of the seeds become sufficiently extracted in the stomach and intestinal canal, to excite the mucous membrane to increased secretion, and also to influence the action of the nerves. They are found principally useful to those invalids who suffer from general deficiency of secretion in the intestinal canal, and from nervous langour. I do not conceive that they are so proper for persons of the inflammatory diathesis, and who become easily heated; and I should rather approve of them as an occasional than a constant remedy, for they are not a certain aperient, and I do not think it desirable to subject the canal constantly to this kind of stimulus. If the seeds accumulate very much, some inconvenience may be occasioned by their augmentation of bulk, and if they be retained in the intestines, some further inconvenience may result from the disengagement of sulphuretted hydrogen.

to remedy the functional error existing so much higher up in the canal, and I have witnessed examples in which serious complaint in the liver has made insidious progress, from the circumstance of the patient having placed reliance on this palliative relief, and neglected the employment of an effective course of medicine.

The application of leeches, with a view to derive blood from the vessels which communicate with those of the lower bowels, is a practice quite common in France, and seems a favourite measure, whatever viscus of the body may be affected. I have no doubt of the utility of this mode of obtaining blood, when the lower part of the intestinal canal is in a state of congestion; and, I may add, in many cases of irritation. A gentleman had been troubled with diarrhœa, which was often painful, for two or three months. It had resisted the

usual treatment by medicine. By one application of leeches near the rectum he was cured.

Nature often points out the propriety of relieving the overloaded circulation of the intestines, by the discharge of blood from the hemorrhoidal vessels, and when, therefore, the indications for such a mode of evacuation are presented, without any spontaneous relief having taken place, the use of leeches is important. Also in certain states of congestion of the uterine vessels, this method of local depletion will be attended with advantage.

In all cases of inflammation near the surface, in which the detraction of blood is proper, the application of leeches is a very eligible mode of treatment. I apprehend that blood is drawn from a greater number of capillary vessels by this method than by

any other; such abstraction being favoured also by the gradual and protracted evacuation of the vessels. It remarkably relieves inflammatory action, either of the acute or chronic kind, in the stomach and bowels. It is by no means so effectual in maladies of the head and chest, in which cupping is a better mode of taking away blood; although occasionally, even in those complaints, the use of leeches may be more convenient, and even more appropriate.

Comparatively speaking, the practice of taking away blood by cupping is very rarely resorted to by the French, and they appear to prefer, in principle, the mode of bleeding by leeches, which they call derivative; thus for the relief of the head, they apply them in the neighbourhood of the rectum. That free cupping at the neck or behind the ears, or opening the jugular vein when the vessels of the head are in a state

of congestion and increased action, is a far more efficacious treatment, appears to me most unquestionable.

I consider it to be an important principle of treatment in regard to the detraction of blood, in local inflammation, that we should make it from the system, when the action of the heart is much increased beyond the natural standard. When we have sufficiently reduced the pulse, or, if in the first instance the general circulation do not appear to be affected, it may be preferable to use cupping or leeches only.

In active inflammation of any of the important organs of the body, the *decided* conduct of the English practitioner in using the lancet as his chief remedy, promptly and boldly, and persisting till the dangerous force of the disease is conquered, demands, in my opinion, an undoubted preference

over the more tardy, and I must add, the inefficient methods of the French. This leading difference in the method of treating dangerous inflammations, appears to me to constitute the most remarkable distinction in the practice of the English and the French physician.

I believe that severe and dangerous diseases are much less frequent amongst the French than the English. There are physical and moral causes to explain this fact. Their climate is less variable, and less humid, than ours. They use a lighter diet; much more bodily exercise, and they are a more cheerful people, constantly cultivating amusement. Hence, probably, the general plan of French practice is simple; and the use of *tisanes* and *lavemens emolliens* is generally preferred to the employment of active medicines.

The pharmacien is not in any case permitted to prescribe; and no one can open a shop for the sale and preparation of medicines, without the permission of the authorities.

La medecine expectante is still the favourite method of practice with many of the French physicians. I cannot undertake to say how generally. When the principle is directed by a clear judgment, there is much in it to be admired. A constant and too officious interference by means of active medicines, may do serious injury to the powers of the constitution; and, on such terms, the remedy may be worse than the disease: but, on the other hand, to look on passively as a spectator, and witness the formation of disease, forbearing all active treatment until formidable symptoms take place, seems more reprehensible even than excess of zeal in the use of medicine.

I approve the maxim, *Venienti occurrite morbo.*

In inflammations of the most important organs of the body, if we allow delay, or want decision, the moment of being useful soon passes away. It is incumbent upon us always to pay due attention to natural indications, and to consider nature in the light of a good physician; but I maintain that, in all instances of acute disease, and for the most part in chronic, we may interpose our aid with certain benefit, if we form a correct diagnosis, and come armed with just principles of practice.

Within the last few years, new medical doctrines* have been introduced in France,

* M. Goupil, who was attached to the Hospital of Val-de-Grâce for two years, has given a clear view of these doctrines, in a work entitled Exposition des Principes de la Nouvelle Doctrine Médicale, &c. Paris, 1824.

by M. Broussais, Professor at the Hôpital du Val-de-Grâce at Paris; of which, the most important part relates to the inflammation of the mucous membrane of the alimentary canal. This inflammation is divided into acute and chronic, and is denominated according to its situation; *gastrite*, when affecting the stomach; *gastro-enterite*, when it extends from the stomach to the small intestines; and *colite*, when confined to the colon.

The great importance of the functions of the stomach and intestines, and the active sympathies which the stomach especially exchanges with every part of the body, almost as a centre of the nervous system, is one of the medical truths first taught in our schools, and is constantly demonstrated to our observation, both in health and sickness. But M. Broussais has extended to an unauthorized length, his theories founded

on the inflammatory affection of the mucous membrane of the digestive canal; so that, if I mistake not, he assigns to it almost an universality of influence.

Our acquaintance with the *gastro-enterite*, is a key to the whole pathology of this Professor, who has taken a great lead in Paris, and formed a school of his peculiar doctrines. He considers that all the essential fevers of authors are only various forms of sympathetic phenomena, arising out of a gastro-enterite; that all the pretended nervous affections of the stomach are the result of a chronic gastrite; that the various dangerous disorders of the brain, for the most part, owe their origin to the state of the digestive passages, irritated with chronic disease; that in all the febrile phlegmasiæ, the stomach and small intestines are irritated in the commencement, if not during the whole progress of the malady; that the

gout depends commonly on a chronic *gastro-enterite*, "which prepares and supports the irritation of the joints."

He considers that *gastrite* rarely exists alone, and that it is almost constantly joined with an inflammation of the small intestines.

He does not admit that there is any essential difference in the nature of gout and rheumatism.

This is a very concise epitome of the doctrines of M. Broussais, and is offered only as an outline.

The practice which is founded on this view of most of the diseases of the body is remarkably simple, and may be almost included in the free and repeated application of leeches to the most affected part of the abdomen; the use of fomentations and

poultices to the seat of irritation; of emollient lavemens; of tisanes calculated to allay irritation; of the mildest nutriment, as veal broth with rice; also the greatest care is used to avoid every irritating material, whether medicinal or dietetic; and, to favour all these means by entire repose and time. The gravest fevers of the East and of the West; the plague itself; the fevers of our own country, continued or intermittent, typhoid or inflammatory, and the phlegmasiæ, appear to be all arranged under the same general principle of treatment.

From the observations which I had the opportunity of making at the hospitals in Paris, and from the attention I have since devoted to the examination of these doctrines, I am far more inclined to borrow, occasionally, from the opinions of M. Broussais, than implicitly to follow his theory or practice.

I am persuaded that the idea of inflammation of the mucous membrane, founded on the morbid appearance of the tongue, and a dry and heated state of the surface of the body, is often too strongly entertained. When the tongue is wholly red and dry, or red in part, with whitish or yellow fur on its edge, the inference may be fairly drawn, that the digestive organs are in a morbid condition, and which is further shewn by the loss of appetite, and by the state of unnatural thirst. I admit also that in these circumstances, there is a great susceptibility to inflammatory action in the mucous membrane of the stomach and small intestines; and the knowledge of this fact should make us extremely careful in the employment of any heating stimulus, medicinal or dietetic, in the treatment of fevers, or of the phlegmasiæ. I am also aware, that, in many cases of fever, terminating fatally, the morbid appearances on

dissection will be found chiefly in the mucous membrane of the alimentary canal, but also in the mucous membrane of the bronchiæ; thus lending great support to the doctrines of M. Broussais. On the other hand, I have had occasion to notice deductions, in my opinion, too hastily drawn to be correct, from the mere appearance of redness here and there in the stomach and intestines, presenting to the zealous admirers of the doctrine in question, the full evidence of gastro-enterite. Respecting the precise interpretation due to such appearances on dissection, the best anatomists and pathologists will sometimes differ. I may here remark, that the inspection is now and then made too hastily and superficially: it is requisite that the state of the whole canal should be accurately traced. In the first view of the parts it may happen that scarcely any morbid appearance is discovered; but on extending the research, even

the ulcerative process may be met with in patches: at La Charité I saw several examples exactly in point.

That an inflammatory state of the mucous digestive membrane is very influential upon the functions of the other organs, and of the brain especially, is unquestionable; but is it primary or consequential, in the order of occurrence? In reference to the question of continued fever, I apprehend that it is an effect, and not the primary cause of the general disease, which attacks the whole nervous system at once, afterwards producing disorder in parts of the body which are most predisposed to morbid action; and, certainly, it appears that such secondary disease most commonly falls upon the mucous membrane of the alimentary canal, and also on the bronchial membrane.

If in the outset of these observations I may seem to contradict my concluding remarks, I wish it to be understood that I admit the partial, but not the total, fitness of the doctrines in question. I object still more to the rigid practice which is enjoined of avoiding the use of purgative medicine, when the appearances of the tongue are such as I have described, notwithstanding that the patient may be free from nausea, or from tenderness or pain of the stomach or bowels. I consider that the preference is greatly due to our English practice of giving occasional doses of calomel, or some mercurial alterative, in combination with suitable purgatives, by means of which the vitiated secretions, always a source of irritation, are removed. But here again, I admit that we should look watchfully to the symptoms which may indicate the necessity or the propriety of applying, with freedom, leeches to the epigastricregion, and sub-

sequent fomentations, for the relief of inflammatory action, and of using purgative medicine, in such circumstances, with proportionate caution.

As a general statement, I would assert, that in the commencement of fever, continued, intermittent, or remittent, the action of an emetic, and of calomel joined with purgative medicine, is most beneficial and important; and the fear of producing *gastro-enterite* by such measures, would lead us into the serious error of *omission.*

In cases of confirmed indigestion, our improved modern pathology leads us to the employment of those means which remove inflammatory irritation; as, the application of leeches, and other local remedies; the use of mild corrective medicines, abstinence from food, which calls the digestive powers into much action, and general regimen.

We avoid using bitters and stimulants to provoke that appetite which nature has so wisely denied during the irritation of disease.

In active inflammation of the intestines, existing in conjunction with their obstruction, it must be our first care to remove the inflammatory action by general and local bleedings, and to refrain from the use of purgative medicines by the mouth, till this first object is accomplished, in case that such medicine causes sickness and vomiting, and evidently aggravates irritation. I do not doubt that much mischief is often produced by the solicitude of the practitioner to remove obstructed action of the bowels, instead of directing his treatment to the removal of inflammation, as the immediate and primary object to be fulfilled.

I will here take occasion to offer a few

remarks on the subject of Gout and Rheumatism. The theoretical opinions advanced by M. Goupil to prove the identity of the two diseases, are to me quite unsatisfactory.

Gout never assails the husbandman who unites temperance with his labours; but he is not exempted from rheumatism in any of its forms. Gout is the disorder of peculiar constitutions, and of the adult age; but rheumatism occurs at every period of life, and to all constitutions.

On the assumption that gout is a *gastro-enterite*, with a developement of irritation in the joints, purgative medicines are prohibited, and the free application of leeches to the affected parts is recommended as the chief curative treatment.

I admit that in some circumstances of the gouty paroxysm, the mucous digestive

membrane is affected with inflammatory irritation, requiring suitable and peculiar treatment; but, as a general principle of practice, I confidently advocate the use of alteratives and purgatives, and, with only occasional exceptions, disapprove of the employment of leeches as a remedy for the local part of the disease.

As in theory, so in practice, I believe that M. Broussais considers that rheumatism is to be viewed in the same light as the gout.

M. Laennec employs general bleeding in acute rheumatism; leeches in the chronic; and tartar emetic in both forms of the disorder.

An analytical examination of the points of doctrine and practice, which I have here briefly discussed, would lead me far beyond

the limits which I have intended to observe in this Essay; but I could not overlook the most interesting novelty which has, for the last five years, engaged the French school of medicine.

It is still a custom amongst the French physicians to employ *tisanes*, which are decoctions or infusions of roots, herbs, flowers, or grains, as medicinal remedies on which they seem to place considerable reliance. The "*formulaire pratique des Hôpitaux civils de Paris*" contains nearly ninety prescriptions of different kinds of tisane. With us, the Lisbon diet drink, or the simple decoction of sarsaparilla, is the only medicine which we direct to be taken in quantity as a drink. But even sarsaparilla is given with more advantage, in a state of concentration, by using the cortical part of the root, exclusively, in which the whole virtue seems to reside.

I object to the general principle of using medicine in a state of large dilution. It is true that the French do not prescribe active substances in this form; but their fondness for these feeble agents, tends to establish inefficient and almost insignificant practice.

Diluent drinks are useful adjuncts to medicine; but I should think that a very limited number of tisanes would comprise all that can be considered either as useful or agreeable.

The nurse may safely act the part of the pharmacien in this department, but, at the same time, should be directed by the physician as to the preparation of suitable drinks. With this qualification, the attention of the French physician in nicely regulating the regimen of the sick chamber, is worthy of our imitation. The effect of the most useful and appropriate medicines

will often be frustrated, unless a corresponding care in the plan of diet be strictly observed.

To this mode of practical medicine peculiar to the French, which I have here criticised as not worthy of the skilful physician, there are some striking exceptions.

At the excellent Hospital St. Louis, chiefly appropriated to the treatment of the various diseases of the skin, and principally under the direction of Alibert and Biett, arsenical and other active preparations are administered without apprehension. They prefer small doses of arsenical solution, twice a-day for a continuance, to the use of large doses for a short time. Tincture of cantharides, in the dose of twenty drops twice a-day, is one of their favourite remedies, alternately with arsenic, in the treatment of the order Squamæ. Before

employing such medicines, however, they are careful to remove all inflammatory action from the system.

Subcarbonate of ammonia, dissolved in water, in the proportion of two drams to a pint and a half, and given in this quantity daily, is found useful in certain states of cutaneous irritation, apparently caused by a free employment of mercury for syphilis.

The inveterate disease called *lupus* is very successfully treated by the application of an arsenical caustic. They allow the part to form a crust, before they apply a poultice or any emollient dressing.

Neither expence nor trouble is spared in making the artificial medicated baths. The alkaline bath, prepared by dissolving the subcarbonate of soda in the proportion of two pounds to the necessary quantity of

water, is extremely useful when the skin is affected with scales.

The douche de vapeur affords great benefit in some obstinate local affections of the skin, when it is necessary to stimulate the vessels so as to bring about an entire change of action. This description of douche often proves useful in chronic rheumatism, and in sciatica, when existing in the chronic form.

I had the opportunity of witnessing the administration of tartar emetic in large doses, as a daily medicine, to patients under the care of M. Laennec. His method is to begin with one, two, or four grains, as the total quantity for the twenty-four hours.

A solution is made in the proportion of half or the whole of a grain, to half an ounce of simple or some lightly aromatic water,

sweetened; and it is given every two hours. The patient is desired to drink very sparingly; for without this caution, the medicine would most probably produce too much of emetic effect. In the first instance, this result very commonly happens; but it is remarkable how soon the stomach accommodates itself to large doses of this active medicine. When its continued use produces sickness, syrup of white poppy is added, in the proportion of an ounce to half a pint of the antimonial solution; or, as an equivalent, a grain of extract of opium. The total quantity of the tartar emetic is very commonly increased to twenty grains and upwards in the twenty-four hours. I saw an elderly man, who had, in this space of time, on the preceding day, taken sixty grains without having experienced nausea, or any other inconvenience.

M. Laennec considers that the tartar

emetic, when administered with the freedom which I have described, exerts a highly useful power in diminishing inflammatory action in continued fever, and in the phlegmasiæ; and he is most satisfied with its action, when, after the first day or two, it ceases to produce any sensible effect on the stomach.

Reflecting on the extraordinary circumstance of the exhibition of this active medicine in such immense quantity with seeming impunity, I thought it probable that the French preparation might be weaker than our own; but on comparing the crystals which I procured at Paris, with those prepared according to the London Pharmacopœia, I could not discover any difference; nor is there the least essential distinction in the mode of preparation, as directed by the London Pharmacopœia and the French codex. I have lately had many opportunities

of prescribing tartar emetic on the principle of treatment which I have described; and I have been perfectly satisfied with its useful agency; but I have usually commenced with one grain, and never exceeded two grains, for the first twenty-four hours; nor found it necessary to go beyond eight in the progressive quantity; except in one case of insanity, in which sixteen grains were given daily for a short time, with the greatest advantage. In the quantity of two grains, it has usually produced considerable sickness for the first day or two; but afterwards, even the increased doses have seldom caused any nausea.

With some persons, however, the first dose of a quarter of a grain produces active sickness. It appears to me probable that the maximum of usefulness * is to be found in

* With regard to many other medicines, the most useful maximum of dose is an interesting question. I am certain

a moderate range of doses; and that it is desirable to avoid trying how much the stomach and the constitution will possibly bear. Have we a security that the accumulation of a very large quantity might not produce violent effects? Indeed, I am informed of an instance in which the amount of sixty grains was taken in divided doses in a short time; the direction being given that the medicine should be repeated till vomiting was produced. At length, such severe sickness did take place, as could not be restrained for many weeks.

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that the largest quantity which the stomach will receive, is not the most efficacious. The action between the medicine and the stomach must be mutual. If we take, for example, so innocent a medicine as the carbonate of iron, I expect more effect from the dose of a dram than half an ounce, which would incommode the powers of the stomach by its mass. The observation applies to all medicines which are of a very insoluble nature. I do not mean, in a general sense, that a small dose of a medicine has equal power with a large one, but that there is a point of increase, beyond which the efficacy becomes lessened.

In the treatment of active inflammation, I have usually joined nitre in moderate doses, with tartarized antimony, in a saline draught; and when the inflammatory action has so far yielded, that I have had confidence in not requiring the further use of the lancet, and therefore not apprehended the inconvenience to which I have adverted at page 27, of disguising the disease, I have added digitalis to the draught occasionally; thus obtaining a combination of sedative medicines of great efficacy; and, according to my experience, not disagreeing with the stomach during the active state of the disease.

We must always keep in mind that the effect of medicine is in the greatest degree relative to the particular disease for which it is administered, and to the force of such disease. The doses of active medicines are to be diminished as symptoms abate.

In the case of a gentleman suffering from enlargement of the liver, and with whom mercury in any form acted very unfavourably, I obtained the most satisfactory results from the use of tartar emetic as an alterative; this medicine never occasioning that nervous irritation which invariably attended the use either of calomel or the pilula hydrargyri.

The practice which I have here related, of administering large doses of tartar emetic, and that recommended by Dr. Hamilton, of the free use of purgatives, appear very opposite to the doctrines of Broussais, which inculcate such a tender regard to the susceptibility of the stomach and intestinal canal, as almost to discountenance the use of emetics and purgatives, from the apprehension of producing *gastrite*, or *gastro- enterite*.

We are greatly indebted to the in-

genuity and industry of the French chemists for many important results in vegetable chemistry; and as the most valuable of all the discoveries made, I may mention the separation of the essential principle of the yellow bark (cinchona cordifolia) called *quinine*; which, for medical use, is afterwards combined with sulphuric acid, forming the now well-known medicine, sulphate of quinine*.

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* Sulphate of quinine may be procured by digesting bruised bark in repeated portions of diluted sulphuric acid, until the liquor no longer possess a bitter taste. The different liquors are then to be mixed together and strained. To the strained liquid, lime is to be added, until the mixture assume a chocolate brown appearance, and a precipitate subside to the bottom of the vessel. This precipitate must be washed with a little cold water, dried, and digested in alcohol. The alcoholic solution, when submitted to distillation, leaves, in the retort, a brown viscous liquid, which is to be treated with a suitable quantity of boiling dilute sulphuric acid and a portion of charcoal. This solution is lastly to be filtered, and set aside to cool, when crystals of the sulphate of quinine will form. Mr. Garden informs me, that the largest portion of the sulphate of quinine which he has been able to prepare from the best yellow bark, is as one to fifty.

I do not consider it to be proved, that the sulphate of quinine embraces all the useful qualities of the entire bark; although, from its power in curing intermittent fever, we may conclude that it possesses the most important. Two of the principles which are removed by the process for obtaining the sulphate, namely, the quinic acid, and resin, must not be disregarded.

I have sometimes found the decoction of bark more acceptable to the stomach, and more useful, than the sulphate of quinine, and particularly grateful when given with the carbonate of potash and lemon juice in effervescence, adding also some tincture and syrup of orange peel.

Bark in substance very often oppresses the stomach, and seems to impair both the appetite and digestion, which in general become improved by the influence

of the sulphate of quinine. Indeed, formerly, when in the habit of directing large and frequent doses of the powder of bark for the cure of ague, I found it expedient almost to forbid food, seeing that the stomach was sufficiently occupied with the presence of the bark. It is scarcely necessary to observe, that, in some cases of ague, where the digestive organs, and the liver especially, are in fault, bark, in any form, is not the appropriate medicine for the cure.

The sulphate of quinine is unquestionably a powerful and excellent tonic, and at the same time does not stimulate unfavourably. I am accustomed to prescribe it with great success to patients convalescent from gout; to whom on all former occasions, bark in its other forms had proved unsuitable, tending to re-excite the gouty action.

The acetate of morphine is another of

the new medicines derived from the French chemists, which we can administer advantageously to those individuals who are too much stimulated by the ordinary preparations of opium. The process* employed for the separation of morphine from opium, removes the resin, the narcotine, and meconic acid.

The black or Lancastrian drop owes its useful quality to the circumstance of its containing a larger proportion of acetate

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* Opium is to be digested in cold water, and the solution filtered. Pure ammonia is to be added to this liquid so long as a precipitate is produced. Impure morphine is thus obtained, which may be purified by dissolving it in acetic acid, and digesting it with animal charcoal. The solution is again decomposed by ammonia. This precipitate is to be washed with distilled water, and dissolved in boiling alcohol, from which pure morphine will crystallise upon cooling. The acetate is formed by dissolving the morphine in dilute acetic acid, and evaporating the solution to dryness upon a sand bath.

of morphine than the other principles of opium; but it is not so pure a preparation as the acetate of morphine, prepared as I have described.

It appears to me that half a grain of the acetate of morphium is about equal to a grain of the extract of opium.

When immediate relief from severe pain is sought to be obtained, and that opium does not materially disagree with the patient, a preference is due to the tincture of opium, as being a more powerful anodyne than any of the other preparations which I have mentioned. I have found, by experiment, that the resin, separated from the other parts of opium, has an anodyne power, not inconsiderable.

The hydrocyanic (prussic) acid is a valuable medicine, but requires, according to

my observation, more care in the administration of full doses, than any other medicine. It may be given in small doses, usually, without any inconvenience. When its qualities were first proclaimed, it was too highly extolled as a remedy in phthisis pulmonalis; and, from consequent disappointment, I conceive that its just merits are not sufficiently appreciated. In some cases of hectic fever, attended with urgent cough, I have procured the happiest effects from the use of this medicine. I have not, with the adult patient, in any instance, prescribed more than twenty-four minims as the total quantity, in twenty-four hours; and usually have confined myself to the extent of fifteen, always commencing with small doses.

In order that this medicine may be given with reliance on its properties, it is necessary that it should be kept in the

dark, in a cool situation, and that the vial should be accurately stopped. I proceed to offer a cursory account of several of the other new medicines.

The alcoholic extract of nux vomica exerts a special and powerful influence on the spinal marrow, and has produced very beneficial effects in some urgent cases of paralysis. It may be given either in general or local palsy, provided that inflammatory action be not present; that there be no indications threatening apoplexy; and that due care be taken in its administration.

In order to obtain the beneficial effects of the medicine in very confirmed cases of paralysis, we are informed by M. Magendie, that the paralytic limbs should experience some convulsive action; and this, he says, usually takes place in the course

of a few days. Then the dose of the medicine is to be lessened. It is administered with most advantage in the form of a pill. A quarter of a grain is the least dose which need be used in the beginning for an adult; and it may be given twice or thrice in the day. The dose is to be increased according to its effects: and it is stated by M. Magendie, that some persons have borne the augmented quantity of thirty grains in the day: but from four to six grains per diem, is the maximum amount usually required. This distinguished physiologist mentions that, in Italy, the following tincture is very much employed for the treatment of paralytic limbs, by means of friction:

Alcohol, one ounce,
Dry extract of nux vomica, three grains.

Dr. Edwards, at Paris, was successful with nux vomica in a case of amaurosis, or

gutta serena, accompanied with a paralysis of the upper eye-lid. It has afforded great benefit in many cases of local paralysis, affecting different parts of the body in different examples.

A medical friend informs me, that he obtained very great advantage from this medicine in the treatment of a severe case of tic douloureux, after various other medicines had failed to give relief.

In a case of long standing paralysis of one of the lower extremities, I have had great cause to be gratified with the useful agency of the alcoholic extract, in relieving the symptoms of neuralgia. The patient, a gentleman between thirty and forty years of age, had been afflicted with occasional pains of great severity coming on suddenly, causing complete disability, lasting about twelve hours, and during such period, pro-

ducing exquisite tenderness of the limb. With the abatement of pain, sleep followed; and, on awaking, this tenderness had so completely passed away, that he could bear a free handling of the parts; but the muscular power of the limb was weakened during the day, it was frequently affected with convulsive action, and its usual debility became much increased.

The case is in progress; but up to the present time the medicine has evidently produced good effects, and without causing any tetanic action of the muscles, which I have mentioned as being considered desirable in some cases; although an unusual sense of tightness was produced. Not the least pain has returned, and the limb is stronger. When I had increased the dose to a grain and a quarter during two days, the sense of tightness, joined with much feeling of weight, became troublesome, and I

suspended the use of the extract. In forty-eight hours these symptoms disappeared, and the medicine has been resumed without any kind of disagreement. I may add, with satisfaction, that the retentive power of the bladder, which had been for a long time affected, became materially improved.

It has been discovered by M. M. Pelletier and Caventou, that the nux vomica, the bean of St. Ignatius, and the upas poison, owe their active power over man and animals, to two particular vegetable alkalies, the strychnine and brucine.

Strychnine is procured in the state of crystals, by a complicated chemical process, from the nux vomica. Its action on the animal economy, as proved by experiments on dogs, is so extremely powerful, that one would conceive it to be inadmissible as a medicine; but M. Magendie relates that he

has administered it in paralytic cases with good effects. From an eighth to a quarter of a grain is the usual dose. Brucine has been found combined with strychnine in the nux vomica. In St. Ignatius's bean, and in the upas, brucine bears a similar relation to that which cinchonine has to quinine in the cinchona barks, the strongest of which (cinchona cordifolia) contains the largest relative proportion of quinine. In the same manner the bean and upas, which are much more active substances than the nux vomica, contain little of the brucine, and much of strychnine. In the upas, strychnine is almost pure*.

For medicinal purpose, brucine is procured from "la fausse angusture" (angustura ferruginea). The process is in most

* I have borrowed some of these details from the "Formulaire pour la Preparation et l'Emploi de plusieurs Nouveaux Médicamens," par F. Magendie, Septembre 1825.—Fifth edition.

respects similar to that employed for strychnine. It is administered in pills, and has been employed in paralytic cases with reported success by M. Magendie, and by M. Andrals fils, in doses from half a grain to five grains; and it is assuredly a much safer preparation than strychnine.

The active properties of ipecacuanha have been found by M. M. Magendie and Pelletier, to reside in an immediate principle which they have called *emetine*. They consider that it may be advantageously substituted for ipecacuanha, as an emetic, it being divested of the offensive odour and taste of that substance, and which M. Caventou found by experiment to be foreign to the emetic qualities of the medicine. As an emetic, from a quarter to a whole grain in solution may be first given, and a quarter or half a grain repeated every twenty minutes till the due effect be produced.

Veratrine is an alkali procured by a long chemical process from the plants of the family of veratrum. It appears to be the chief active principle residing in the colchicum autumnale, and in white hellebore. M. Magendie states that the dose of a quarter of a grain usually affects the intestinal canal rather powerfully. In a case of apoplexy, he prescribed two grains in the twenty-four hours without producing much effect on the bowels. He comments on this result, as proving how much the state of the nervous system influences the action of medicines.

M. Magendie suggests that the use of veratrine might be preferable to the tincture of colchicum and the eau medicinale (which latter medicine he considers to be substantially veratrine), on account of the greater uniformity of the preparation.

In the treatment of gout, I am induced to avoid the active preparations of colchicum entirely; and in employing the acetum colchici, which is very mild, I use it only in combination with other medicines, and desire to procure from its agency rather an auxiliary operation, than that of colchicum distinctly. I have endeavoured to explain my sentiments fully on the subject in my Treatise on Gout and the disordered State of the Digestive Organs.

With these observations, I shall now conclude my summary view of the nature of the principal new medicines, which have been added to our list of remedies by the science and industry of our continental neighbours*.

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* In the praise which appears to be so justly due to the foreign chemists, the German philosophers should not be overlooked. We may refer the discovery of the prussic acid to the labours of Scheele, and that of morphine to Sertunner;

It would lead to an interesting field of inquiry, were we to examine the general customs and the habits of living in different countries, in relation to health; and to trace the influence of climate, soil, political and civil institutions, laws, religion, &c. But the subject would demand a volume, rather than a few pages, and be foreign to my present limited purpose.

According to what I have learned from others, and from my own personal observation, I should state that the diseases which arise from repletion, as apoplexy and gout, occur more frequently in this country than in France. I am persuaded also, that the latter disease has increased amongst the middle classes of society in this country, with the progress of luxury and refinement.

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from which last discovery, we may consider that the idea of insulating the most important principles of other vegetable medicines took its rise.

The quantity of solid meat consumed at the English table, and the use of heavy malt liquors, together with strong wines not sparingly taken, may be contrasted with the extenuated dishes of the French, and their beverage of lemonade, vin ordinaire, and weak though grateful wines.

I am aware that the French generally eat a greater variety, and take a larger quantity of food than the English; but their meats are stewed, their soups are not heavy, and their vegetables are well dressed. Oil is a plentiful ingredient in many of their dishes, and they scarcely use spices. Altogether their food appears calculated to pass the digestive organs readily; and when the nature of the liquors and some other circumstances are considered, the total regimen is not, I apprehend, so much suited to produce repletion and its evils, as that commonly pursued in this country.

In London, the extreme lateness of the hours both for dining and evening amusement is obviously unfavourable to the constitution. In Paris, fashion in this respect is more rational; and the custom of remaining a short time at the dinner table, after the repast, and the period of conviviality consequently being abridged, much difference of result must follow in regard to the health of the inhabitants of these great cities. The French people are far less inclined to be sedentary than the English, and appear to be active and cheerful both by nature and habit. I conclude, therefore, from these and other causes which might be mentioned, that the medical system of practice must, of necessity, vary considerably in the two countries.

Paris is altogether less humid than London; and the superior clearness of its atmosphere is in great measure to be attributed to the use of wood fires.

A general notion is entertained that the water of Paris is deleterious to strangers, as producing disorder of the stomach and bowels. Not denying the fact of such indisposition occurring to those who visit Paris for a short time, I may still question the nature of the cause.

I have examined the filtered* water of the Seine, and obtained the following results:

Its specific gravity is 1.0002.

Solution of muriate of barytes added to the water produces an immediate but slight milkiness.

Oxalate of ammonia causes, in a few seconds, a considerable milkiness.

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* The establishment for filtering the water of the Seine is upon a grand scale, and admirably conducted. The water is passed through a very thick bed of charcoal and gravel. Many of the inhabitants use large filtering stones in their cisterns, for accomplishing the same object.

Nitrate of silver does not occasion any immediate change ; but, after standing several minutes, an effect is just perceptible.

Lime water does not disturb the transparency of the water.

From this examination the conclusion follows, that it is a water containing a very minute quantity of solid ingredient. In one thousand parts the specific gravity is only $\frac{2}{10}$ higher than that of distilled water. From the nitrate of silver causing so slight a change, we see that the water is almost free from the muriates. It is evident that the chief solid ingredients are the sulphate and the carbonate of lime. Although I should certainly consider that a water still less impregnated with these salts, and especially the sulphate of lime, would be more wholesome, yet, when the small proportion existing in this water is estimated, I am led to the conclusion, that the disorder of the

digestive organs, which commonly happens to the visitors of Paris, is not attributable to the water of the Seine, but to the new mode of living, and above all to the free, and sometimes intemperate, use of the light acid or acescent wines. In such cases, weak brandy and water should be substituted, and if wine be taken, care should always be observed to procure such as is of the best quality, and the most free from acid.

Since the printing of the sheets on the subject of the stethoscope, I have met with many interesting and important cases, proving to my further and complete satisfaction the value of the indications afforded by the instrument.

In reverting to the subject, I shall offer a concise account of two instances in which I derived an accuracy of instruction for my

treatment, which I could not otherwise have obtained.

A lady fifty years of age, who enjoyed good health generally, and was not subject to cough, had been ill with symptoms of pneumonia and bronchitis, a week before I was consulted. I found the following symptoms: the pulse frequent, hard, and rather full; the skin hot; cheeks flushed; the tongue much furred; the urine high-coloured, not depositing sediment; the bowels torpid; cough rather occasional than constant, but for the most part violent; the expectoration copious and muco-puriform. In the upper parts of the right and left sides of the chest, the indications afforded by the stethoscope were, very sharp and strong sounds, both in inspiration and expiration, conjoined with the mucous rattle. She did not experience any pain, nor any sensible difficulty of respiration, although it was evident that she did not

breathe naturally; and fits of coughing were easily excited. Her countenance had a very feverish and anxious look. Previously to my visit she had been bled only once.

I directed a free bleeding from the arm in the morning, and the application of twenty leeches over the chest in the evening. I prescribed small doses of tartar emetic, in a saline draught, every four hours; some calomel, James's powder, colocynth, and extract of poppy at bed time, with a saline aperient in the morning, and other general means. The blood was extremely cupped, with a dense buffy coat. The bleeding from the arm was twice repeated in the course of the three following days; and as the sounds were still indicated by the stethoscope, although in a less degree, the leeches were again applied twice in the course of the week; the medicines being regularly administered.

By these means the pulse became reduced from one hundred and twenty to ninety, and acquired a degree of softness. When the heat of skin abated, a blister was applied on the chest; but it appeared to have the effect of creating more febrile irritation; and without affording relief to the cough. I have observed this disadvantage to follow from blistering in other cases of an inflamed and irritable state of the lungs; and I apprehend that we should, under such circumstances, take into consideration whether or not this peculiar stimulus may produce more injury than benefit, from the irritation which it creates in the chest being more influential than the counter-action produced on the surface.

The tartar emetic proved very decidedly useful in its effects. I did not increase the dose beyond three grains in the twenty-four hours, and in the commencement of its use,

the smaller doses occasioned much sickness; but with the advantage of removing morbid secretions. The cough becoming very irritable, syrup of poppy was added to the saline antimonial draught; and, when all necessity for bleeding was removed, the infusion of digitalis, in small doses, was also employed; for, in this case, inflammatory action prevailed to a most troublesome degree. Indeed, the complaint became chronic, the fever decidedly hectic, and the situation of the patient appeared to be precarious. The expectoration had strongly a puriform appearance, was streaked with blood, and was very copious: its odour was faint, but not particularly offensive. The sounds which I have mentioned became less acute, and the rattle was more mucous. At this period I directed the use of tartar emetic ointment over the chest, which produced an extensive pustular eruption; and the advantage of this counter-

irritation was very marked. I have the pleasure of adding that this patient is now most favourably convalescent. She is taking with advantage, as a mild restorative medicine, an infusion of the cortical part of sarsaparilla in lime water, mixed with an equal portion of milk made hot.

The other case was that of a young woman, affected with many of the same symptoms which I have related in the foregoing case, but in a more acute degree. From accidental circumstances timely treatment had been omitted; and I found the highest degree of general fever, with a pulse frequent, hard, and obstructed. The breathing was laborious, but not attended with any fixed pain in the chest. Her voice was rather hoarse, and had lost its natural tones. The cough was urgent, and the expectoration took place with difficulty. The expectorated matter was, for

the most part, frothy, and had a remarkably acid odour. The cheeks were flushed with a deep hue of purplish red, and the lips assumed a very dark appearance. Such was the laboured state of the circulation, that the patient was affected with an almost constant disposition to faint. She complained of a sense of extreme burning, and also of soreness, over the whole of the chest. She had not enjoyed any sleep for three nights, nor any in the day; her mind was occasionally delirious; and her countenance wore the greatest anxiety.

In the upper part of the right side of the chest, I discovered by the stethoscope remarkably acute sounds, both in inspiration and expiration, and in the left side similar sounds, but in a weaker degree. I also distinguished the mucous rattle in some points. Blood was taken freely from the arm, and it was cupped and buffy in the

extreme. Sixteen leeches of full size were applied to the right side, and eight to the left side of the chest. Tartar emetic was administered internally in the manner I have before mentioned. The altered and improved situation of the patient in a few hours, was equally remarkable and satisfactory. All the urgent symptoms were alleviated, but all continued sufficiently troublesome to require a repetition of general and local bleeding, in the course of the three following days. It is worthy of remark, that free depletion removed the disposition to faint. At the end of eight days, the symptoms of active inflammation were removed, and at the same period the sounds had ceased, and the stethoscope afforded only the indication of the mucous rattle. The tartar emetic solution, although joined with the syrup of poppy, caused more than usual sickness in this case; but it appeared highly beneficial, by

useful instruction in regard to the seat, the removing more freely, than the simple act of expectoration could accomplish, the viscid matter, which, latterly, was muco-puriform, and was less acid in odour. After the reduction of the inflammation, pulv. ipecac. compos. was given in a saline draught at night, with great advantage in assisting sleep and allaying cough.

This patient is convalescent and takes the mild medicine of sarsaparilla with hot milk, just now described, in conjunction with the draught at night, and gentle aperients occasionally.

I think I have here shewn, that by means of the stethoscope,* I obtained much

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* M. Laennec had the goodness to present me with a stethoscope constructed according to his last improvement. For the convenience of my professional brethren, I have di-

extent, and the progress of the inflammatory symptoms; and that I was thereby enabled to direct my local treatment with greater accuracy and advantage, than I could have done, if confined to the ordinary modes of investigation.

The cases which I have here related, correspond with Laennec's description of acute pulmonary catarrh, or bronchitis, a term which I have been accustomed to consider, more applicable to the inflammation affecting the larger branches of the bronchia proceeding immediately from the trachea. When the ramifications extending through the lung are inflamed, it constitutes a case, either mixed with, or, so much resembling

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rected an ingenious workman to imitate this stethoscope; and Mr. Garden, Chemist, No. 372, Oxford Street, has under taken to keep a constant supply of the instruments for sale.

genuine pnuemonia or inflammation of the substance of the lungs, that, in a practical point of view, the distinction does not perhaps appear important; but yet, accuracy of diagnosis should always be desired.

In the case of a young gentleman lately under my care, the symptoms of inflammation in the lungs were acute, of considerable continuance, and apparently distinct from any affection of the bronchia, as the stethoscope did not afford the sonorous rattle, but only the crepitating and mucous kinds. I do not speak of this as a solitary example which has occurred to me. At this moment I am attending an elderly gentleman severely ill with pneumonia; and, in examining his chest, I cannot discover the sonorous rattle except in one small point; but I meet with other phenomena, as the crepitating rattle in one part, and the indication of obstruction of the air cells in another.

I take this occasion to observe, that in my study of the volumes of Laennec and Forbes, I do not discover so much mention as my experience would have led me to expect, of the strong sonorous rattle, or sharp tones (which in their variety admit of almost endless comparisons), as being characteristic of the existence of more or less active inflammation of the bronchia. I have found this species of rattle serve, in a remarkable manner, to point out the exact seat of the inflammatory action; and in proof that I have not been drawn into false conclusions from these particular indications of the stethoscope, I have been successful in my treatment, and have ceased to perceive the tones, in the same proportion as the inflammation has passed away.

Laennec, when speaking of the sonorous rattle, observes, "I am led by my dissections to believe that it is produced by the partial obstruction or narrowing of part of

the tract of a bronchial tube, whether this takes place from the pressure of a tumour, or of a portion of the lung condensed by inflammation, or by the obstruction produced by a portion of tenacious mucus, or by the partial thickening of the internal coat of a bronchial ramification."

The absence of the respiratory sound may arise from an impermeable state of the cells, or the bronchial ramifications, and have for its cause the presence of tubercles, or other matter of obstruction; or it may proceed from some secretion or effusion, the produce of disease. But the student, when he does not discover any sound of respiration, must be careful to avoid drawing false conclusions from his yet imperfect tact in the art; it so commonly happens, that calm respiration does not afford any distinct perceptions to the unpractised ear.

It appears to me worthy of consideration, whether or not, in some states of hydrothorax, the evacuation of the fluid by puncture may be a desirable expedient? The increased accuracy of diagnosis attainable by means of the stethoscope, would here be very important towards deciding the fit period for the performance of the operation.

In the narration of my cases, I have not made mention of percussion. Suffice it to observe, that I have seldom used it except in chronic diseases of the chest, as the indications by the stethoscope, in addition to the general symptoms, have afforded me all the information which I have required.

I shall here bring my Observations to a conclusion, having endeavoured to present in a concise and intelligible form, a part of

the results of my own experience in the use of the stethoscope; and to consider briefly the merit of some points of practice; inquiring at the same time into the nature of several medicines, which claim our particular attention, both from their novelty and their importance.

The value of any practical opinion must be decided by the suffrages of the many; but, whoever collects and records his facts with care and fidelity, renders some contribution to the advancement of the medical art.

FINIS.

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